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ABSTRACT

Thirty-eight sixth grade students (20 good and 18 poor readers) were involved in a study that examined comprehension under oral and written modes of presentation and across four expository texts that had been prepared at two levels of difficulty (easy and hard). All subjects listened to and read the texts in a counterbalanced order and afterwards were asked to retell what they had heard or read. They also completed a multiple choice test. The results revealed that significant differences in the listening mode did not exist between good and poor readers. In fact, the poor readers did better than the good readers in the free recall of literal ideas in the oral mode of presentation. However, in the reading mode of presentation, the good readers were superior in comprehension on both easy and hard texts. (FL)

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GOOD AND POOR READER RECALL OF ORAL AND WRITTEN EXPOSITORY DISCOURSE AT TWO LEVELS OF DIFFICULTY

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There are numerous reasons for poor comprehension, ranging from factors which exist outside the head, such as text structure and vocabulary load to factors which are inside the head such as reading skill and prior knowledge. Various researchers have looked at combinations of these factors in the attempt to discover why there are differences between students in comprehension. This study examines listening and reading comprehension for easy and hard passages in the attempt to determine if the problems which poor readers have may be characterized as a general language/comprehension deficit, a decoding deficit, or a combination of these factors.

SUMMARY

Subjects.

This study investigated sixth grade good and poor readers' comprehension under oral and written modes of presentation, across four expository texts, prepared at two levels of difficulty--easy and hard.

Based on teacher and reading coordinator judgment, 38 subjects, 20 good and 18 poor readers from three middle-class, Minneapolis suburban elementary schools pariticipated in the research project.

A variety of instruments were used in order to validate teacher and

reading coordinator judgment of good and poor readers. The Gates-MacGinitie Comprehension Test, Level D, was administered to all subjects. Good readers had a $\bar{x}$ comprehension grade equivalent score of 9.83, s.d. of 1.95 and poor readers had a $\bar{x}$ comprehension grade equivalent score of 4.26, s.d. 1.20 . Subjects were also given two experimenter designed tests to measure speed of word recognition; speed of word recognition is considered to be an indicator of decoding automaticity. There were 20 high frequency words with a mean SFI index of 67.9 which were printed on an 8 1/2 x 11 inch sheet of paper and 20 middle frequency words with a mean SFI index of 49.3 which were also printed on an 8 1/2 x 11 inch sheet of paper. The $\bar{x}$ speed of recogntition of high frequency words for the good readers was 9.11 sec for the poor readers was 13.11 sec and the $\bar{x}$ speed of recognition of middle frequency words for the good readers was 14.62 sec and the poor readers was 27.47 sec.

The Experimental Design and Procedures

A 2 (Good vs. Poor) x 2 (Oral vs. Written Presentation) x 2 (Easy vs. Hard Expository Texts) mixed factorial repeated measures design was used, with all factors crossed. Mode of presentation (oral vs. written) and the text difficulty factor (easy vs. hard text) were within subject factors while the reading ability (good vs. poor readers) was a between subject factor. All within subject factors were counterbalanced to eliminate possible order effects.

Each subject received all treatments, i.e. an easy and hard passage in the listen and read mode.

Dependent measures included the following tests: (a) A free-recall test, in which number and level of literal and inferential ideas recalled were scored and (b) a multiple-choice literal comprehension test, developed in accordance with each text.

Before the experiment was conducted, prior knowledge for each of the text topics and content was determined. One week later, subjects read and listened to the texts in a counterbalanced order and, afterwards, were required to retell what they had read. They also completed the multiple-choice test.

The design and procedures used here allows one to determine if the differences between reading ability groups are a result of a general comprehension deficit as some investigators have reported, the result of some decoding problem which has also been found or the interaction of both a general comprehension and a decoding deficit. In addition, the present study makes use of four expository texts, calibrated for difficulty, according to several measures.

Construction of Texts and Measures Used to Determine Text Difficulty.

Four expository texts on scientific topics were constructed so that two could be labeled easy and two could be labeled hard. The easy texts (Eskimos and Seagulls) were at the 4/5th grade readability level and the hard texts (Earthquakes and Date Trees) were at the 7/8th grade readability level (Dale-Chall Formulae, 1948).

Easy texts contained 300 words, while hard texts contained 367 words. The texts contained from 25 to 31 sentences. All texts contained 6 paragraphs.

A Meyer analysis of the texts (1975) was used in order to determine number of idea units per text and specific levels in the text heirarchy. Passages contained from 106 to 137 idea units. All texts contained a specific higher-order rhetorical structure (based on Meyer, Freedle, Walker, 1978) and four heirarchical levels of importance.

The $\bar{x}$ percent of literal idea units recalled for the easy texts was comparable, 33.15% and 35% of the entire number of idea units in the passage and for

and for the hard texts $\bar{x}$ number of literal idea units recalled was comparable, with 15.98% and 14.77% of the entire number of idea units in the passage

Prior knowledge of the easy texts was comparable with a $\bar{x}$ of 26.43 and 26.48 idea units reported by subjects and prior knowledge of the hard texts was comparable with a $\bar{x}$ of 20,98 and 22.25 idea units reported by subjects.

On a cloze test, administered to adults, (college undergraduates), 64% and 65% of the deletions were filled in for the easy texts and 54%and 57% for the hard texts.

RESULTS

A mixed-factor analysis of variance was computed on the total number of idea units recalled. The factors were reading ability (Good vs. Poor), text difficulty (Easy vs. Hard) and mode of presentation (Oral vs. Written).

1. There was no significant difference on good vs. poor readers on the overall number of literal idea units recalled. However, there was a significant difference in performance by good and poor readers in the multiple-choice task.
2. There was a significant main effect for passage difficulty ($p < .01$).
3. There was a significant main effect for mode of presentation ($p < .01$).
4. The two-way interaction (ability x mode) was significant ($p < .04$).
   The two-way interaction (difficulty x mode) was signiaficant ($p < .01$).
5. The three-way interaction (ability x difficulty x mode) was significant ($p < .05$).

Following analysis of variance, Bonferroni contrasts were run on cell means. These can be found under Figures 1 and 2. On the easy texts good readers did signficantly better on reading than on listening (p .05), whereas the poor readers did just the opposite. They were significantly better in listening comprehension than in reading comprehension. This can be seen in the disordinal interaction.

T-tests on independent groups were also computed. One can summarize these findings for both easy and hard texts in the following manner: Significant differences in the listening mode were not found between good and poor readers. On the other hand, in the reading mode of presentation, the good reader was superior in comprehension for both easy and hard texts (p .05).

An important finding emerging from our study related to the need to use texts of different levels of difficulty before arriving at conclusions about the possible deficits of poor readers. Our research shows that on our easy texts poor readers showed no listening or general comprehension deficit. In fact, these poor readers did better than their good reader counterparts in the free recall of literal idea units in the oral mode of presentation.

Additional research is desirable with still other texts which further define differences in processing of expository discourse.

TABLE I

Means and Standard Deviations for Literal Idea Units Recalled

EASY TEXTS

READER	Listen	Read
GOOD READER (N = 20)	31.00 (30.59 s.d.)	44.20 (14.44 s.d.)
POOR READER (N = 18)	45.55 (26.84 s.d.)	30.22 (15.38 s.d.)

HARD TEXTS

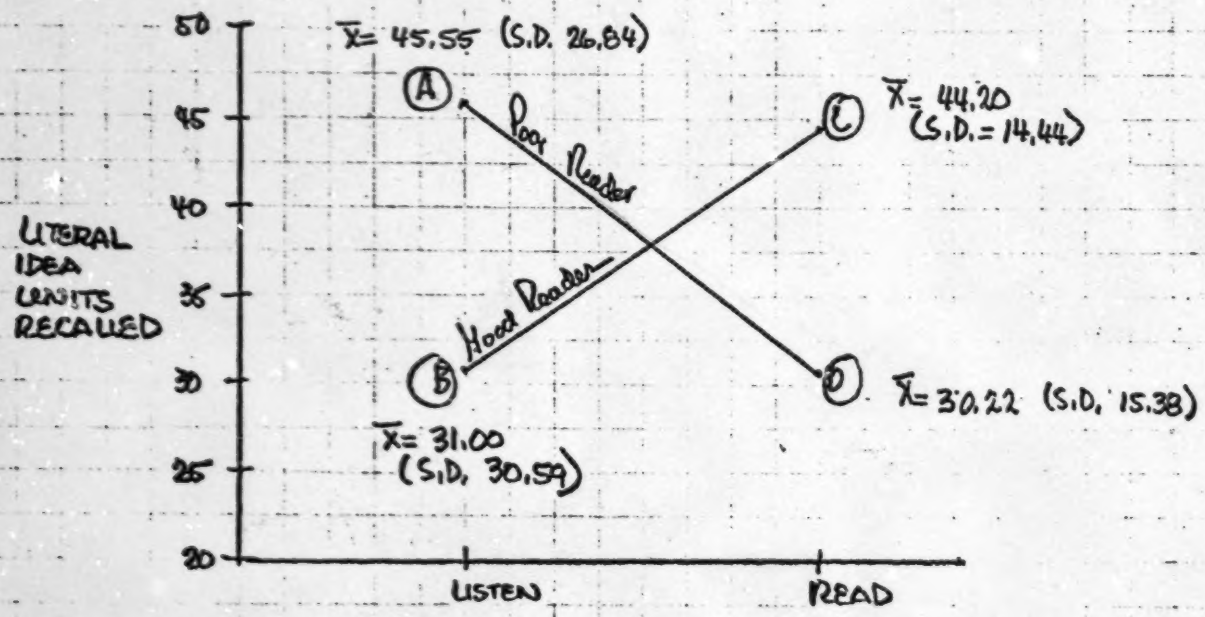
GOOD READER (N = 20)	26.35 (8.92 s.d.)	19.55 (12.50 s.d.)
POOR READER (N = 18)	20.00 (10.77 s.d.)	10.83 (10.03 s. d.)

3-WAY INTERACTION: (ABILITY x MODE x TEXT DIFFICULTY)

FIGURE ONE

Good and Poor Reader Recall of Oral and Written Easy Expository Texts

EASY TEXTS



Posthoc Bonferroni Contrasts:

A vs. B, df = 36, t = 1.53 (N.S.D.)

A vs. D, df = 17, t = 2.50 (S.D.) (p. < .05)

C vs. D, df = 36, t = 1.47 (N.S.D.)

B vs. C, df = 19, t = -2.26 (S.D.) (p. < .05)

T-tests for independent groups

A vs. B, df = 36, t = 1.55 (N.S.D.)

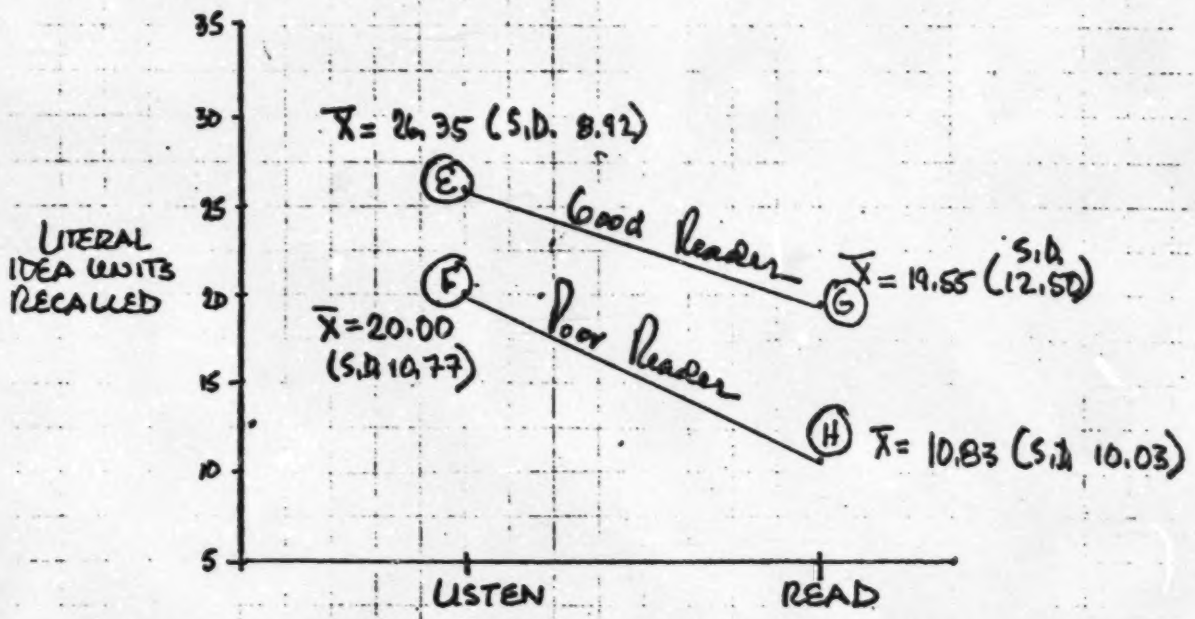
C vs. D, df = 36, t = 2.83 (S.D.) (p. < .02, 2-tailed)

3-WAY INTERACTION: (ABILITY x MODE x TEXT DIFFICULTY)

FIGURE TWO

Good and Poor Reader Recall of Oral and Written Hard Expository Texts.

HARD TEXTS.



Posthoc Bonferroni Contrasts:

E vs. F, df = 36, t = .67 (N.S.D.)

G vs. H, df = 36, t = .92 (N.S.D.)

F vs. H, df = 17, t = 1.49 (N.S.D.)

E vs. G, df = 19, t = .716 (N.S.D.)

T-tests for independent groups:

E vs. F, df = 36, t = 1.94 (N.S.D.)

G vs. H, df = 36, t = 2.30 (S.D) ($p < .05$, 2-tailed)